THE GENUS *HOSTA* TRATT. (LILIACEAE) IN KOREA

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ABSTRACT

Based on the result of a biosystematic study that employed phenetic analyses of morphological and enzyme electrophoretic data, and fieldwork, six Korean species can be recognized: *Hosta yingeri* S. B. Jones (Tae-huk-san, So-huk-san, Hong islands); *H. capitata* (Koidz.) Nakai (southern Korea); *H. clausa* Nakai (central and northern Korea); *H. minor* (Baker) Nakai (south and middle-eastern Korea, including Wan and Ko-jae islands); **H. taquetii** (Lévl. in Fedde) M. Chung & J. Kim comb. nov. (=*H. venusta* F. Maekawa) (Che-ju Island); and *H. jonesii* M. Chung (southern islands). Keys, typications, synonomies, descriptions, and distributions are included.

INTRODUCTION

Hosta is a horticulturally important genus of approximately 22 – 25 species of herbaceous perennials restricted to eastern Asia (Chung and Jones 1989; Jones 1989). Many species and cultivars are widely grown in shady gardens in Asia, Europe, North America, and New Zealand (Chung 1990; Jones 1989). Numerous nomenclatural and taxonomic problems exist within the genus (Aden 1988). Bailey (1930), Stearn (1931), Hylander (1954), and Lee (1957) all pointed out that *Hosta* is taxonomically confused genus. The taxonomic difficulty has been attributed to the presence of relatively few diagnostic characters on dried herbarium specimens (Hylander 1954). In addition, many species of *Hosta* are so variable ecologically and morphologically that a proper species concept requires morphological, ecological, and biosystematic studies (Chung 1990). Over 2,500 cultivars further confound the taxonomic status of several *Hosta* species. These difficulties have given rise to broad (Fujita 1976) or narrow (Maekawa 1940, 1969) species concepts; 15 or 25 Japanese species, respectively. Although Fujita carefully described morphological characters and

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ecological and geographical distributions, his studies were confined to Japan and did not include Korean or mainland Asian taxa.

MATERIALS AND METHODS

Samples of *Hosta* rootstocks (978) were collected from 45 localities in South Korea and two on Tsushima Island (*H. tsushimensis* N. Fujita), Japan (Chung et al. 1991). Observations were made of the habitats, and notes were taken on characteristics of the populations. The rootstocks were grown under uniform conditions in the Botany Growth Facilities at the University of Georgia. Voucher specimens of all collections are deposited at GA, SNU, and KYO. Herbarium materials from BH, BM, E, GA, K, KYO, L, MO, NA, NY, PE, SNU, TI, and US were examined in order to search type specimens of Korean *Hosta* taxa and determine the total range of geographic variation and the distribution of each taxon, especially those collected from North Korea and Manchuria, China. In addition, the Herbaria at Tokyo University (TI) and Kyoto University (KYO), where the majority of type specimens of *Hosta* are kept, were visited by MGC.

TAXONOMY

The taxonomic treatment presented here is the result of a biosystematic study that employed phenetic analyses of morphological data (Chung 1990; Chung and Jones 1990), data from enzyme electrophoresis (Chung et al. 1991), and fieldwork (Chung 1990; J. Kim pers. comm.). Four complexes, one with three species (*H. minor, H. taquetii* [= *H. venusta*], and *H. jonesii*) and the remaining three each with a single species (*H. yingeri*; *H. capitata*; and *H. clausa*) can be recognized in Korea. This conclusion conflicts with the sectional treatments of *Hosta* by Maekawa (1940) and Fujita (1976). For example, Maekawa (1940) and Fujita (1976) treated *H. capitata, H. minor*, and *H. taquetii* in section *Lamellatae* F. Maekawa because these three species have ridged scapes. Results by the study of Chung (1990) and Chung et al. (1991), however, showed that *H. minor* and *H. taquetii* are closely related to each other, while *H. capitata* is quite distinct. In addition, *H. tsushimensis* and *H. jonesii*, which belong to section *Tardanthae* (F. Maekawa) F. Maekawa (Chung 1989; Fujita 1976) show close relationships with *H. minor* and *H. taquetii*. Thus, sectional treatments of the Korean hostas must wait until the entire genus has been examined.

While examining loans from the 12 Herbaria and specimens at TI and KYO, four type specimens: *H. clausa* (*Nakai s.n.*), *H. clausa* var. *normalis* F. Maekawa (*Nakai 5255*), *H. ensata* F. Maekawa (*Nakai 5253*), and *H. longipes* var. *alba* Nakai (*Utiyama s.n.*) were not encountered. Probably, these four type specimens were lost (H. Ohba pers. comm.). We therefore

designate lectotypes for two names, *H. clausa* var. *normalis* and *H. ensata*, and neotypes for two names *H. clausa* and *H. longipes* var. *alba*.

A KEY TO THE KOREAN SPECIES OF *HOSTA*

1. Bracts, pappillous at apex, greenish when fresh, remaining green at flowering, and persistent with the fruits.
   2. Scapes ridged or longitudinally striate.
      3. Leaf 6.5 – 10 cm long; length of inner and outer perianth lobes equal to subequal ..... *H. taquetii*
      3. Leaf 14 – 35 cm long; outer perianth lobes longer than inner lobes ..... *H. minor*
   2. Scapes smooth, not ridged.
      4. Racemes distichous; transparent lines on perianth ca. 5 mm long; stamens 3 + 3 (the exceptional length of the second set of stamens) ..... *H. yingeri*
      4. Racemes secund or subsecund; transparent lines on perianth ca. 15 mm long; length of stamens same ..... *H. jonesii*
1. Bracts, not pappillous at apex, whitish green when fresh, fading to whitish brown at flowering, not persistent with the fruits.
   5. Scapes ridged or longitudinally striate; leaf blades scabrous on the nerves below; inner perianth lobes ca. 14 mm wide; anthers whitish yellow with purple dots ..... *H. capitata*
   5. Scapes smooth, not ridged; leaf blades smooth on the nerves below; inner perianth lobes ca. 9 mm wide; anthers dark purple ..... *H. clausa*

Hosta clausa Nakai, Bot. Mag. (Tokyo) 44:27. 1930. *Funkia lancifolia* auct. non Sprengel; Komarov, Fl. Manshur. 2:328. 1901. *Funkia ovata* auct. non Sprengel; Komarov, ib. 2:329. 1901. *Hosta lancifolia* auct. non Engler; Nakai, J. Coll. Sci. Imp. Univ. Tokyo 31:250. 1911. *Hosta caerulea* auct. non (Andrew) Tratt.; Nakai, ib. 31:251. 1911. *Funkia lancifolia* auct. non Sprengel; E Czerniakovska in Komarov, Fl. URSS, 4:55, t. 5 f. 2. 1935. — Type: KOREA. Prov. Kyeong-gi-do. Kwang-nung, n.d., *Nakai s.n.* (n.v.). — Neotype, here designated: KOREA. Prov. Kyeong-gi-do. Kwang-nung, 16 Aug 1929, *Lim s.n.* (SNU!).

Hosta japonica Thunb. var. *lancifolia* Nakai, Rep. Veg. Diamond Mts. 167. 1918. *nom. illeg.*

Hosta clausa Nakai var. *normalis* E Maekawa, J. Jap. Bot. 13:899. 1937. — Type: KOREA. Prov. Kang-won-do. Mt. Kum-gang, n.d., *Nakai 5255* (n.v.). — Lectotype, here designated: KOREA. Prov. Kang-won-do. Mt. Kum-gang, 20 Aug 1902, *Uchiyama s.n.* (TI!) — Paratypes: KOREA. Prov. Kang-won-do. Mt. Kum-gang, 5 Aug 1932, *Kobayashi s.n.* (TI!); Prov. Pyeong-an Puk-do. Jeon-san, 12 Aug 1912, *Imai 7* (TI!).

Hosta ensata E Maekawa, J. Jap. Bot. 13:900. 1937. — Type: KOREA. Prov. Kyeong-gi-do, n.d., *Nakai 5253* (n.v.). — Lectotype, here designated: CHINA. Manchuria. Prov. Mukdensis, 13 Jul 1897, *Komarov 366* (NY!; isolectotypes: BM!, K!).

Glabrous, herbaceous perennials from creeping rhizomes. Leaves ascending obliquely; petioles (2.2-)4 – 10(-18.5) cm long, 3 – 5 mm wide at

middle of petiole, greenish or sometimes with purple dots, winged; blades 6.5 – 13.2(-16) cm long, 1.6 – 6.3 cm wide, lanceolate or narrowly ovate, rigid and heavy-textured, acuminate at apex, gradually narrowed at base to petiole, the veins of upper leaf surface conspicuous when fresh, the veins of lower leaf surface in 4 – 8 elevated pairs. Scapes erect, terete, 26 – 62 cm long, (2-)3 – 4 mm wide, with bright purple dots on all parts, below inflorescence bearing (2-)3 – 4(-5) clasping, lanceolate bracts, these 15 – 20 mm long, 8 – 13 mm wide, obtuse at apex; raceme subsecund, (8-)10 – 23(-26)-flowered; inflorescence bracts, acute, navicular, whitish green (fresh), 7 – 12 mm long, 4 – 7 mm wide, fading to whitish brown at or after flowering; pedicels horizontally spreading, 8 – 12 mm long, whitish purple, usually the same as the subtending bracts, bright purple after flowering. Perianth (fresh) 35 – 50 mm long, ca. 32 mm in diameter, bluish purple, color between the narrow and inflated perianth tube slightly different, greenish purple in bud; upper dilated portion of perianth tube somewhat bell-shaped, the apex of perianth lobes slightly decurrent; inner nerves not intensely purple-colored; translucent lines 12 – 16 mm long, extending to the middle of lower narrowed perianth tube, conspicuous; stamens 39 – 48 mm long; filaments white, attached to the base of the perianth tube, nearly equal to or slightly longer than perianth; anthers ca. 3 mm long, dark bluish purple on the basal surface. Capsule cylindric, 25 – 34 mm long, 4 – 7 mm wide, purple dotted. Flowering mid June to August; fruit ripening late July to September.

Korean name: Jukok-bibich'u, Cham-bibich'u.

This species grows along streams in central and northern Korea and in Manchuria, China, with three morphs present within population (Chung 1990). The first morph bearing lanceolate leaves grows on rock and appears to be Maekawa's *H. ensata*. The second morph, with ovate leaf blades, grows on sandy soil in open areas and corresponds to *H. clausa* var. *normalis*. A third morph grows under dense *Salix gracilglans* Nakai stands and appears to be reproduced only by rhizomes (Chung 1990). Plants with closed flowers, *H. clausa* var. *clausa*, were not found during field studies of 1988 and 1989. However, they are known in garden cultivation (S. B. Jones pers. comm.). Maekawa (1969) noted that *H. clausa* var. *clausa* is a rare variety, whereas variety *normalis* is common. Lee (1973) proposed that varietal rank not be recognized. We have followed Lee's (1973) treatment. Morphologically, *H. clausa* is distinct from other species with clasping ground bracts, flowering bracts fading to whitish brown after flowering, dark purple anthers, terete scapes, and elevated veins on the lower leaf surface. Isozymically, this species is distinct from other taxa (Chung et al. 1991).

HOSTA MINOR (Baker) Nakai, J. Coll. Sci. Imp. Univ. Tokyo 31:251. 1911 (excl. syn. *H. longipes*). — BASIONYM: *Funkia ovata* var. *minor* Baker, J. Linn. Soc., Bot. 11:368. 1870. — TYPE: Korean Archipelago, 1863, *Oldham 865* (HOLOTYPE: K, Photo!; ISOTYPE: L!).

Hosta minor (Baker) Nakai f. *alba* (Nakai) F. Maekawa, J. Fac. Sci. Univ. Tokyo, Sect. 3, Bot. 5:418. 1940. — BASIONYM: *H. longipes* var. *alba* Nakai, Rep. Veg. Diamond Mts. 167. 1918, *nom. illeg.* — TYPE: KOREA. PROV. KANG-WON-DO. Mt. Kum-gang, 16 Aug 1902, *Utiyama s.n.* (n.v.). — NEOTYPE, here designated: KOREA, PROV. KANG-WON-DO. Mt. Kum-gang, Nae-kum-gang, 8 Aug 1932, *Kobayashi s.n.* (TI!).

Herbaceous perennials from creeping rhizomes. Leaves erect-patent, spirally arranged at base of stem; petioles 7.0 – 21.0 cm long, purple dotted, winged; blades ovate or narrowly ovate, 7.5 – 15 cm long, 5.0 – 8.1 cm wide, dull green, obtuse or acuminate at apex, with (6-)7 – 9 pairs of somewhat smooth, not elevated, nearly glabrous nerves on lower leaf surfaces. Scapes usually erect, longitudinally striate, 30 – 65(-80) cm long, 2 – 4(-5) mm wide, usually purple-dotted on the lower part, below inflorescence bearing 1 – 4(-5) navicular bracts, these (8-)18 – 26(-35) mm long, (4-)6 – 12 mm wide; raceme subsecund, (7-)10 – 15(-22)-flowered; inflorescence bracts acute, navicular, greenish (fresh), 7 – 12 mm long, 4 – 8(-11) mm wide, usually open at flowering, persistent after flowering; pedicels obliquely descending or horizontally spreading, 5 – 10 mm long, greenish, minutely purple-dotted, usually shorter than subtending bracts. Perianth (fresh) 35 – 45 mm long, ca. 30 mm in diameter, whitish purple, greenish in bud; the lower narrower portion of perianth tube whitish; the upper dilated portion more or less bell-shaped, whitish purple; inner nerves intensely purple-colored; lobes oblong, acute, 14 – 22 mm long and 7 – 14 mm wide; translucent lines 13 – 20(-25) mm long, extending to the middle of lower narrower perianth tube; stamens 35 – 45 mm long, nearly equal or slightly longer than perianth; anthers yellowish with purple dots on the basal surface. Capsule cylindric, 22 – 36 mm long, 3 – 6 mm wide. Flowering in July to early August; fruits ripening in late July to August.

Korean name: Chom-bibich'u.

This species is found on the granitic and humus soils and under pine-oak forests on hillsides or somewhat open areas of eastern and southern Korea, including Wan and Ko-jae islands. (Korean endemic species.)

HOSTA TAQUETII (Lévl. in Fedde) M. Chung & J. Kim, comb. nov. — BASIONYM: *Funkia subcordata* Sprengel var. *taquetii* Lévl., Repert. Spec. Nov. Regni Veg. 9:322. 1911. — TYPE: KOREA. PROV. CHE-JU-DO. Che-ju Island, Mt. Hal-la; elev. ca. 1,700 m, 4 Aug 1910, *Taquet 4047* (HOLOTYPE: E!).

Hosta venusta F. Maekawa, J. Jap. Bot. 11:245. 1935. — Type: origin unknown, cultivated plant at Tokyo, Japan, 10 Jul 1934, *Terasaki s.n.* (holotype: TI!).

Hosta venusta var. *decurrens* F. Maekawa, J. Jap. Bot. 13:897. 1937. — Type: KOREA. Prov. Che-ju-do. Che-ju Island, Mt. Hal-la; elev. ca. 1,500 m, 14 Aug 1912, *Isidoya 32* (holotype: TI!).

Herbaceous perennials from long creeping rhizomes. Leaves erect-patent, spirally arranged at base of stem; petioles 1.8 – 5.0 cm long; blades narrowly ovate, 4.2 – 7.4(-8.0) cm long, 2.0 – 3.9(-4.5) cm wide, dark dull green, slightly rigid, acuminate at apex, nerves of upper leaf surface inconspicuous when fresh, nearly glabrous on the 5 – 6 pairs of more or less smooth, none elevated nerves on lower leaf surfaces. Scapes erect, longitudinally striate, 25 – 40(-50) cm long, 2 – 3 mm wide, usually purple-dotted on the lower part, below inflorescence bearing 1 – 2 lanceolate bract(s), these 10 – 17(-25) cm long, 4 – 9 mm wide; raceme subsecund, 3 – 8(-9)-flowered; inflorescence bracts acute, navicular, greenish (fresh), 6 – 11 mm long, 3 – 5(-7) mm wide, usually open at flowering, persistent after flowering; pedicels more or less horizontally spreading, 7 – 13 mm long, greenish with purple dots, usually longer than the subtending bracts. Perianth (fresh) 30 – 35 mm long, ca. 28 mm in diameter, whitish purple, greenish in bud; the lower narrower portion of perianth tube whitish purple; the upper, dilated portion of perianth tube somewhat bell-shaped, whitish purple; the inner nerves intensely purple-colored; outer and inner lobes nearly equal 13 – 16 mm long and 7 – 12 mm wide; stamens 32 – 35 mm long, slightly longer than perianth; anthers yellowish with purple dots on the basal surface. Capsule cylindric, usually with purple dots, 20 – 30 mm long, 4 – 7 mm wide. Flowering in mid July to mid August; fruits ripening in August to September.

Korean name: Halla-bibich'u.

Hosta taquetii occurs basaltic soil in somewhat open areas or under *Cryptomeria* on Che-ju Island, Korea. Taxonomically, it is closely associated with *H. minor*, but differs by 6.5 – 10 cm long leaves (vs. 14 – 35 cm in *H. minor*) and equal to subequal length of inner and outer perianth lobes (vs. outer perianth lobes longer than inner lobes in *H. minor*). (Korean endemic species.)

Hosta capitata (Koidz.) Nakai, Bot. Mag. (Tokyo) 44:514. 1930. — Basionym: *H. caerulea* var. *capitata* Koidz., Bot. Mag. (Tokyo) 30:326. 1916. — Type: JAPAN. Prov. Awa, Higashiyayama-mura, 29 Jun 1915, *Koidzumi s.n.* (holotype: TI!).

Hosta nakaiana F. Maekawa, J. Jap. Bot. 11:687. 1935. — Type: KOREA. Prov. Chol-la Nam-do. Mt. Paek-un, based on a cultivated plant originally collected Aug 1934, Jul 1935, *Nakai s.n.* (holotype: TI!). — Paratype: KOREA. Prov. Chol-la Nam-do. Mt. Paek-un, 20 Aug 1934, *Nakai s.n.* (TI!).

Herbaceous perennials from creeping rhizomes. Leaves erect-patent, spirally arranged at base of stem; petioles 6 – 12(-19.5) cm long; blades cordate, 8.2 – 18 cm long, 6.5 – 7.9 cm wide, dull green, margins undulate, rigid, abruptly acuminate at apex, nerves of upper leaf surfaces conspicuous when fresh, scabrous on the 7 – 9 pairs of elevated nerves on lower leaf surfaces. Scapes erect, longitudinally striate, 37 – 60 cm long, 3 – 5 mm wide, purple-dotted on the lower part, below inflorescence bearing 2 – 4(-5) lanceolate bracts, these 1.4 – 6.5 cm long, 9 – 12 mm wide; (3-) 7 – 18 flowers clustered near the top of scape; inflorescence bracts boat-shaped, whitish with a purple tint (fresh), tightly closed and short-beak-like before flowering, fading to whitish brown after flowering, 1.6 – 2.2 cm long, 1 – 1.8 cm wide; pedicels, 4 – 8 mm long, whitish with a purple tint, shorter than subtending bracts. Perianth (fresh) 45 – 60 mm long, ca. 25 mm in diameter, whitish purple; the lower, narrower portion of perianth tube whitish, 3.5 – 4(-5) mm in diameter; the upper, dilated portion of perianth tube somewhat bell-shaped; the inner nerves intensely purple-colored; lobes oblong, 16 – 24 mm long and 10 – 15 mm wide; translucent lines, 13 – 24 mm long, reaching almost through the lower, narrower perianth tube; stamens more or less protruding from the perianth; anthers oblong, whitish yellow with purple dots on margin of basal surface. Capsule cylindric, 17 – 25 mm long, 4 – 7 mm wide. Flowering in mid June to mid July; fruits ripening in late July to August.

Korean name: Ilwal-bibich'u, Bangwul-bibich'u.

This species is found on humus soils in pine-oak forest hillsides or in open areas (e.g., Mts. Chi-ri, Prov. Chol-la Nam-do) in southern Korea.

HOSTA YINGERI S. B. Jones, Ann. Missouri Bot. Gard. 67:602 – 604. 1989. — TYPE: KOREA. PROV. CHOL-LA NAM-DO. Tae-huk-san Island, 23 Sep 1985, *Yinger et al. 3616* (HOLOTYPE: NA!). — PARATYPES: KOREA. PROV. CHOL-LA NAM-DO. Tae-hak-san Island, garden-grown material of same collection as holotype, *Yinger et al* (GA!); 18 Sep 1985, *Yinger et al. 3244* (NA!) and garden-grown material (GA!); 22 Sep 1985, *Yinger et al. 3585* (NA!) and garden-grown material (GA!); and 23 Sep 1985, *Yinger et al. 3610* (NA!) and garden-grown material (GA!); So-huk-san Island, 15 Aug 1985, *Yinger et al. 3164* (NA!).

Glabrous, herbaceous perennials from short, clumpy rhizomes. Leaves ascending obliquely, spirally arranged at base of stems; petioles 3.5 – 12(-16.5) cm long, 2 – 5 mm wide at middle of petiole, greenish or sometimes purple dotted, winged; blades 7.5 – 17(-21.5) cm long, 6.2 – 12,5(-17) cm wide, elliptic-lanceolate or narrowly ovate, rigid and heavy-textured, acuminate at apex, gradually narrowed at base to the petiole, the veins of upper leaf surfaces inconspicuous when fresh, the veins of lower leaf surfaces in 5 – 8 pairs. Scapes 2 – 4 times longer than leaves, erect, terete,

below inflorescence bearing 1 – 2 linear-lanceolate bracts, these 2 – 3 cm long, 3 – 8 mm wide; raceme 17 – 43 – flowered, the flowers equally arranged around the central axis of raceme; inflorescence bracts flat, greenish (fresh), papillose at apex, 8 – 12 mm long, 2 – 3 mm wide; pedicels 1.2 – 2.4 cm long, longer than the subtending bracts. Perianth (fresh) whitish purple, ca. 3.6 – 4.2 cm long, greenish purple in bud; the upper, dilated portion of perianth tube funnel-shaped; the inner nerves not intensely purple-colored; translucent lines ca. 5 – 6 mm long; lobes ca. 1.8 – 2 cm long, ca. 5 mm wide. Stamens distinct, 3 + 3, conspicuously exserted, one set ca. 3.4 cm long, the other set ca. 4.6 cm long; anthers ca. 3 mm long, whitish yellow beneath. Style filiform, ca. 4.5 cm long, exserted beyond the stamens. Capsule cylindric, 2.5 – 3 cm long, 4.5 – 6 mm wide; seeds black, flattened, winged, ca. 8.4 mm long, ca. 3.4 mm wide. Flowering in August and September; fruits ripening in September.

Korean name: Huksando-bibich'u (M. Chung & J. Kim, nom. nov.)

Hosta yingeri is on rocky areas near the ocean at Tae-huk-san, So-huk-san, and Hong islands in Korea. This species is distinct from other species of *Hosta* in its relatively thick, lustrous, adaxially dark green leaves. It is further distinguished by its delicate raceme of flowers spread evenly around the central axis of the inflorescence; typically, other *Hosta* species have subsecund racemes. An additional diagnostic feature of *H. yingeri* is the 3 + 3 set of stamens. *Hosta yingeri* is an attractive species with horticultural potential (Jones 1989). (Korean endemic species.)

Hosta jonesii M. Chung, Ann. Miss. Bot. Gard. 76:920 – 922. 1989. — Type: KOREA. Prov. Kyeong-sang Nam-do. Nam-hae Island, Mt. Kum-san, 28 Aug 1988, *Chung & Chung 1613* (holotype: GA!). — Paratypes: KOREA. Prov. Kyeosang-sang Nam-do. Nam-hae Island, Mt. Kum-san, 5 May 1980, garden-grown material, *Chung s.n.* (GA!). Prov. Chol-la Nam-do. Dol-san Island, 29 Aug 1988, *Chung 957* (GA!); 21 Sep 1988, *Lee 101* (GA!); 22 Sep 1988, *103* (KYO!); 23 Sep 1988, *106* (MO!); 24 Sep 1988, *107* (SNU!); 26 Sep 1988, *112* (TI!).

Herbaceous perennials from short, creeping rhizomes. Leaves erect-patent, spirally arranged basally on the stem; petioles 4.5 – 13 cm long, 4 – 7 mm wide, purple dotted, slightly winged; blades elliptic-lanceolate or narrowly ovate, 6 – 13 cm long, 3 – 5 cm wide, dark dull green, slightly rigid, obtuse or acuminate at apex, gradually narrowed at base to petioles, the nerves of upper leaf surface inconspicuous when fresh, nearly glabrous on the 5 – 7 pairs of somewhat smooth, usually none elevated nerves of lower leaf surfaces. Scapes usually erect, terete, 35 – 60 cm long, 2 – 4 mm wide, purple-dotted on lower part, below inflorescence bearing 2 lanceolate bracts, these 15 – 20 mm long, 4 – 7 mm wide; raceme

(1)3 – 20 – flowered; bracts acute, navicular, green, 8 – 13 mm long, 3 – 4 mm wide, usually not open at flowering, relatively persistent after flowering; pedicels obliquely ascending, 4 – 8 mm long, whitish green, minutely purple-dotted, usually shorter than the subtending bracts. Perianth (fresh) 40 – 50 mm long, ca. 25 mm in diameter, whitish purple, greenish in bud; the lower, narrower portion of perianth tube whitish; the upper, dilated portion of perianth tube somewhat bell-shaped; the inner nerves intensely purple-colored; lobes oblong, acute, 13 – 15 mm long and 7 – 8 mm wide; translucent lines extending to the middle of lower narrower perianth tube; stamens 39 – 48 mm long, nearly equal to or longer than perianth; anthers ca. 3 mm long, yellowish with purple dots on the basal surface. Pistil 45 – 52 mm long. Capsule cylindric, 22 – 33 mm long, 4 – 6 mm wide. Flowering in mid August to early September; fruits ripening in September.

Korean name: Tadohae-bibich'u.

Hosta jonesii is found in shade of pine-oak forests on rocky and rich humus soils at Nam-hae, Dol-san, Po-gil islands, and nearby islands in Korea. This species is distinguished from other species of *Hosta* by the short creeping rhizomes; the navicular, green, relatively persistent bracts; bell-shapes corollas; terete scapes; an adaxially dark dull green leaves. *Hosta jonesii* appears to be related to *H. minor* by the navicular bracts and bell-shaped perianths, and by the creeping rhizomes, but differs by the terete scapes (vs. ridged in *H. minor*), elliptic-lanceolate leaf blades (vs. ovate or narrowly ovate in *H. minor*), obliquely ascending pedicels with fruits (vs. descending in *H. minor*), and flowering in mid August to early September (vs. July to early August in *H. minor*). *Hosta jonesii* is very closely related to *H. tsushimensis* N. Fujita (Fujita pers. comm.), but differs by the former's short creeping rhizomes, bell-shaped upper dilated portion of perianth tube, whitish purple inner perianth nerves, scapes dotted with purple on the lower part, somewhat smooth, and none elevated nerves on lower leaf surfaces. *Hosta yingeri* differs from *H. jonesii* by its ovate, adaxially lustrous leaves; delicate raceme of flowers spread around the central axis of the inflorescence; decurrent, flat bracts; relatively longer pedicels; and distinct, exserted 3 + 3 stamens. (Korean endemic species.)

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